

Hydrologic Model Manager

Short Name	SIRMOD II
Long Name	SIRMOD II
Description	
Model Type	SIRMOD II is a simulation, evaluation, and design program for surface irrigation systems.
Model Objectives	Simulation, evaluation, and design of surface irrigation systems
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Model Structure	SIRMOD II simulation employs user-selectable kinematic-wave, zero-inertia, or full hydrodynamic analyses. Evaluation is based on a two-point power law fit to advance data, and design is based on an optimized volume balance procedure. Simulation and evaluation are event-based.
Interception	
Groundwater	
Snowmelt	
Precipitation	
Evapo-transpiration	
Infiltration	
Model Paramters	SIRMOD II employs kinematic-wave, zero-inertia, and hydrodynamic simulations of overland flow in the surface irrigation environment. Infiltration, geometry, inflow flow hydrographs, and operational scheme are key model input parameters. Uniformity and efficiency are two key output parameters.
Spatial Scale	Spatial scale of SIRMOD II is linear one-dimensional
Temporal Scale	The temporal scale of SIRMOD II analyses is variable, usually 1-5 minutes
Input Requirements	Input includes field length, slope, width, and roughness; inflow rate and duration; infiltration parameters for the Kostiakov-Lewis equation; surge flow parameters if needed; description of downstream boundary conditions; cross-sectional shape; method of simulation.
Computer Requirements	SIRMOD II runs only under Windows 95 and later.
Model Output	Simulation output, both graphic and digital, includes, advance and recession trajectories, runoff hydrographs, infiltration profiles, and volume balance. Evaluation output is Kostiakov-Lewis intake parameters. Design output includes field dimensions, optimal inflow and cutoff time, and field subdivisions.
Parameter Estimatr Model Calibrtn	All SIMOD II input except infiltration must be input by the user.
Model Testing Verification	The SIRMOD II software has been extensively tested with US and Australian data. The model is in use at several US and international sites
Model Sensitivity	The SIRMOD II simulation sensitivity is primarily a function of how well the Kostiakov-Lewis infiltration parameters are defined.
Model Reliabiity	The algorithms of the SIRMOD II software are widely accepted and used in other software as well.

Model Application	Simulation, evaluation, and design of surface irrigation systems.
Documentation	English and Spanish on-line help and users manual.
Other Comments	
Date of Submission	5/1/2001 2:11:19 PM
Developer	
Technical Contact	
Contact Organization	